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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,109	10/31/2003	Edward C. Gunzel	FA/261	1873

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EXAMINER	
COLE, ELIZABETH M	
ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,109	GUNZEL ET AL.	
	Examiner	Art Unit	
	Elizabeth M. Cole	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-86* is/are pending in the application.

4a) Of the above claim(s) *38-81* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37 and 82-86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 16-32, 82-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2001/0006173 to Rock et al taken with Graber, U.S. Patent No. 6,243,870 and in view of Caird et al, U.S. Patent NO. 3,768,156. Rock discloses a fabric having a conductive cable attached to it. The fabric can be a knitted, woven or nonwoven material and can comprise multiple layers. The fabric can be hydrophobic or hydrophilic. See paragraph 0020. The conductive cable can be covered by a barrier layer which corresponds to the claimed tape. The barrier layer can comprise multiple layers. The layers can comprise polyurethane and PTFE among other materials. The barrier layer can be adhesively bonded to the fabric layer and overlies the conductive cable. See figure 12 as well as paragraph 0031. With regard to the limitations set forth in claims 22-26, no structure is set forth for the claimed articles. Therefore, these statements have been considered to be statements of intended use. Rock et al differs from the claimed invention because although Rock et al does disclose employing multiple fabric layers it does not explicitly state that the cable extends across two of the layers. Caird et al teaches that conductive cables such as electrodes can be incorporated into garments such as jacket so that the cable extends across two fabric panels. See figure 3 as well as col. 3, line 53 – col. 4, line 41. Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to have formed the jacket of Rock so that the cable extended across two fabric panels, motivated by the teaching of Caird that this was a known method of forming a garment such as a jacket which comprised conductive elements and because the more panels that are used in jackets the better the fit of the jacket. With regard to the limitations regarding the conductivity of the cable, since the cables in Rock are used as heating elements, it would have been obvious to have selected the appropriate conductivity and resistance in the cables in order to produce a material having the desired properties. With regard to the limitations regarding durability after washing, since Rock appears to disclose the same structure, presumably the material of Rock would meet these limitations.

3. With regard to the limitation that the tape has a narrow width justly slightly greater than the cable width, Rock teaches that the barrier layer can have two functions in the fabric body. First, the barrier layer can be provided in order to impart properties such as preventing air and water droplets to pass through the fabric in order to provide a windproof, water resistant and vapor permeable fabric. See paragraphs 0031. Second, the barrier layer can be provided to protect the circuit against the effects of abrasion. See paragraph 0033. Rock differs from the claimed invention because it does not teach or show that the barrier layer can be narrow and only slightly wider than the cable. However, since Rock teaches providing the barrier for two reasons, to form a windproof, water resistant fabric/garment and to protect the cable, it would have been obvious to have formed the barrier so that it only was slightly wider than the cable, in situations where the properties of being windproof and water resistant were not desired

in the entire garment, for example, in garments intended for use in hot weather, etc. Further, Caird et al teaches that it is known to provide tapes, (element 4) to protect cables in electrically conductive fabrics, which are only slightly wider than the cable. Therefore, the person of ordinary skill in the art at the time the invention was made would have been able to select the particular size of the barrier layer of Rock, in view of the teachings both of Rock and Caird, including a size which was only slightly wider than the cable, in order to produce a less expensive and lighter weight fabric, while still protecting the electrical cable and circuit.

4. With regard to the newly added limitation that the fabric comprises more than one electronic module and connectors attached to the cable ends, Rock shows connector ends 46 and 47 which can be attached to electronic modules. See paragraph 0027. Therefore, it appears that Rock could be connected to more than electronic module. Further, Graber teaches incorporate electronic connectors into garments which can be connected to more than one electronic module, such as one for power and one for information, (see col. 3, lines 50-66). Therefore, it would have been obvious to one of ordinary skill in the art to have employed more than one electronic module as taught by Graber, depending on the desired end use of the finished product.

5. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al taken with Graber, U.S. Patent No. 6,243,870 and in view of Caird et al, U.S. Patent NO. 3,768,156 as applied to claims above, and further in view of Cordia et al, U.S. Patent No. 5,236,765. Rock discloses a hearable fabric as set forth above. Rock differs from the claimed invention because Rock et al does not disclose the particular

types of adhesives which can be used to bond the barrier layer which overlies the cable to the fabric layer. Cordia teaches at col. 9, lines 4-16, that pressure sensitive, hot melt or curable adhesives can be used to bond heating elements to fabric layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to have employed the particular adhesives set forth by Cordia to bond the barrier tape of Rock to the fabric layer, since Cordia teaches that such adhesives are suitable for use to bond heating elements to fabric layers.

6. Claims 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al taken with Graber, U.S. Patent No. 6,243,870 and in view of Caird et al as applied to claims above, and further in view of Parker, U.S. Patent No. 5,658,164. Rock discloses a hearable fabric as set forth above. Rock differs from the claimed invention because Rock does not disclose employing a micro ribbon as the conductive cable. Parker teaches that micro-ribbon cables which comprise an insulation layer can be used to form electrical connections. Therefore, it would have been obvious to one of ordinary skill in the art at the time to have employed a micro-ribbon as the cable in Rock. One of ordinary skill in the art would have been motivated to employ a micro ribbon cable because Parker teaches that such cables are rugged and durable. See col. 4, lines 40-45.

7. The Declaration under 37 CFR 1.132 filed 1/8/09 is insufficient to overcome the rejection of claims based upon Rock in view of Caird and further in view of Parker as set forth in the last Office action because: the evidence set forth in the declaration is not commensurate in scope with the claims. The claims are not limited to the particular

materials used in the declaration. The claims do not recite particular laminate strength. The claims do not quantify what is meant by a slightly wider tape covering versus a wider tape covering. The evidence set forth is for a much for limited embodiment than what is claimed. Also, it is noted that Rock discloses employing and adhesive and/or lamination to bond the barrier layer to the fabric, therefore when the Declaration discusses forming the sample fabrics by either taping or laminating, it is not clear what the difference is between the two processes and whether the laminating disclosed by Rock is the same as that employed in the test set forth in the Declaration and how the adhesive bonding discussed by Rock is accounted for in the declaration and how adhesively bonding a barrier layer on to the fabric would be different than taping, i.e., what is the difference between employing a preformed tape, (presumably having a structure of adhesive plus backing) and adhesively bonding the barrier layer which would produce the same structure of adhesive plus backing in the finished product. .

8. Applicant's arguments filed 1/5/09 have been fully considered but they are not persuasive.

9. Applicant argues that Rock does not disclose the claimed tape with an adhesive which bonds the cable to the panels and in support of this points to the Gunzel Declaration. However, as noted above, the showing set forth in the declaration is much narrower than the instant claims. The showing is specific as to the materials employed, the size of the materials, etc., whereas the instant claims do not recite any particular values or materials. Further, it is noted that the claims do not recite a particular bond strength, laminate strength, etc. Further as noted above, Rock discloses applying the

barrier layer to the underlying structure by laminating and/or adhesive bonding. It is not clear whether the laminating process employing in the testing set forth in the Declaration is the same as that employed in Rock, and it Is not clear how the adhesive bonding process disclosed by Rock was evaluated in the testing set forth in the Declaration. Finally , it is not clear from what is set forth in the declaration how adhesively bonding a barrier layer on to the fabric would be different than taping, i.e., what is the difference between employing a preformed tape, (presumably having a structure of adhesive plus backing) and adhesively bonding the barrier layer which would produce the same structure of adhesive plus backing in the finished product.

10. Applicant argues that Caird does not disclose or suggest a barrier tape. However, Caird does disclose element 4 which covers conductive cables 9. While Caird does not disclose that the tape is adhesively bonded to the cable and underlying fabric, but instead teaches stitching, Rock clearly teaches an adhesive bond for bonding the barrier tape to the fabric. Caird does disclose a protective PVC tape, (element 4), having a width only slightly wider than the cable.

11. Applicant argues that the cables in Rock are not used to connect to more than one electronic module and are not used to transmit data. However, the claims are not specific as to what the cables are used for. Further, with regard to the limitation that the fabric panel comprises more than one electronic module, Rock teaches two connectors at the end of the cable which can be connected to electronic modules. Therefore, Rock teaches this feature. Further, it is clear that the person of ordinary skill in this art would know that cables can be used for transmitting data or power or to form a heating

element and would know that cables with end connectors could be connected to a variety of electronic modules, depending on the desired end use of the fabric.

12. With regard to the rejection of Rock in view of Caird and further in view of Cordia, Applicant argues that Cordia does not teach how to bond a heating element without embedding them in fabric. However, Cordia is not relied on for this teaching since Rock already teaches that claimed elements having the overlying barrier layer adhesively bonded to protect the elements. Cordia is only relief on for the particular types of adhesives which can be used to bond, not for the shrinkable sheet to which the adhesive is applied. To employ the particular known adhesives of Cordia in Rock would not destroy the structure of Rock.

13. With regard to Parker, Applicant argues that Rock and Parker are drawn to different fields of endeavor. However, Parker is relied on for the teaching . that micro-ribbon cables which comprise an insulation layer can be used to form electrical connections. Both Parker and Rock are drawn to forming electrical connections. Parker teaches an alternative, known electrical connector. Parker teaches that such connectors are rugged and durable. Therefore, it would have been obvious to one of ordinary skill in the art at the time to have employed a micro-ribbon as the cable in Rock. One of ordinary skill in the art would have been motivated to employ a micro ribbon cable because Parker teaches that such cables are rugged and durable. See col. 4, lines 40-45. Applicant argues that using a shielded cable of Parker would destroy the intended purpose of Rock. However, the rejection as set forth above, also employs Graber as a reference to show that it was also known to incorporate electrical

conductive elements in garments in order to provide connections between more than one electronic devices. Parker discloses a particular type of electrically conductive connecting element. Since the art of record establishes that it was known to incorporate electrically conductive elements into garments for a variety of purposes, the person of ordinary skill in the art would have been able to select the desired connector from among known connectors, depending on the intended purpose of the connector.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arron, U.S. Patent No. 3,632,966. Arron employs ribbon cables as heating elements.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

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